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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,630	07/27/2001	Steve C. Johnson	H0002135	9510

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EXAMINER

NGUYEN, PHUNG

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,630

Applicant(s)

JOHNSON ET AL.

Examiner

Phung T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 9 is objected to because of the following informalities:

Claim 9 is a duplicate claim and should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller et al. (U.S. Pat. 6,606,034).

Regarding claim 1: Muller et al. disclose a terrain awareness system which comprises all the claimed subject matter as follows:

- a. providing a terrain database 24 (col. 4, line 66);
- b. receiving a positional fix (col. 5, lines 7-14);
- c. determining a database resolution at the positional fix (col. 6, lines 32-48, and col. 27, lines 11-25);
- d. receiving a ground track (col. 4, lines 59-64);

Muller et al. disclose generating a look-ahead envelope based on the received positional fix and the received heading (col. 29, lines 3-46) but do not disclose generating a look-ahead envelope based on the data base resolution as claimed. However, Muller et al. disclose resolution

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is based on distance to airports (figures 6-8, col. 6, lines 40-43) and envelope is generated based on distance to airports (col. 12, lines 21-25 and 40-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize that envelope generated in the system of Muller et al. is based on resolution also.

Regarding claim 2: Muller et al. disclose the positional fix including a positional uncertainty value (col. 28, lines 3-7).

Regarding claim 3: Muller et al. disclose the detection offset based on the value for positional uncertainty (figure 35, col. 5, lines 27-30, col. 27, lines 65-67, and col. 28, lines 1-7).

Regarding claim 4: Muller et al. disclose a series of detection sub-offset based on the value for positional uncertainty (col. 28, lines 7-20).

Regarding claim 5: Muller et al. disclose the positional fix including a distance to nearest runway value (col. 6, lines 40-48).

Regarding claim 6: Muller et al. disclose a side span value based on the distance to nearest runway (figure 35, col. 6, lines 40-44, and col. 28, lines 18-20).

Regarding claim 7: Muller et al. disclose receiving a logical signal indicating a low-altitude flight condition (col. 10, lines 24-35).

Regarding claim 8: Muller et al. disclose a side span value based upon the presence of the logical signal indicating a low-altitude flight condition (figure 35, col. 10, lines 24-26, and col. 28, lines 18-20).

Regarding claim 9: Refer to claim 8 above.

Regarding claim 10: Muller et al. disclose a series of detection sub-offsets based upon the presence of data base high-resolution (col. 6, lines 40-48). Plus the consideration of claim 4 above.

Regarding claim 11: All the claimed subject matter is already discussed in respect to claims 1, 3, and 6 above. Muller et al. also disclose a data bus 404 configured to receive information from navigational instrumentation including a global positioning system (figure 23, col. 21, lines 42-47).

Regarding claim 12: Refer to claim 2 above.

Regarding claim 13: Refer to claim 3 above.

Regarding claim 14: Refer to claim 7 above.

Regarding claim 15: Refer to claim 8 above.

Regarding claim 16: Refer to claim 4 above. Muller et al. also disclose indicating low-altitude flight condition (col. 10, lines 24-35).

Regarding claim 17: All the claimed subject matter is already discussed in respect to claim 11 above, and Muller et al. also disclose a heading received from the means for conveying data (figure 37, col. 29, lines 3-57).

Regarding claim 18: Muller et al. disclose a look-ahead envelope bases that envelope upon a measure of positional uncertainty received from the means for conveying data (figure 37, col. 27, lines 65-67, and col. 28, lines 1-7).

Regarding claim 19: Muller et al. disclose a look-ahead envelope bases that envelope upon a logical signal indicating a low-altitude flight condition received from the means for conveying data (col. 10, lines 24-51).

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Regarding claim 20: Muller et al. disclose a register in the form of RAM A for receiving navigation data comprising a database component including stored elevations of terrain stored in association with a terrain location (col. 23, lines 61-67, and col. 24, lines 1-19) and an alert component configured to determine if an alert condition exists based on the generated look-ahead envelope (col. 11, lines 29-47). Plus the consideration of claim 1 above.

Regarding claim 21: Muller et al. disclose generating the look-ahead envelope defined by a detection offset value (col. 28, lines 3-7).

Regarding claim 22: Muller et al. disclose the register is configured to receive a positional uncertainty value (col. 27, lines 61-67, and col. 28, lines 1-10).

Regarding claim 23: Muller et al. disclose generating the detection offset value based upon the logical signal indicating low-altitude flight (figure 35, col. 10, lines 24-26, and col. 28, lines 7-20).

Regarding claim 24: Muller et al. disclose the look-ahead envelope is defined by a side span value (figure 35, col. 28, lines 7-20).

Regarding claim 25: Refer to claim 8 above.

Regarding claim 26: Muller et al. disclose the look-ahead component generates a side span value (col. 28, lines 3-20).

Regarding claim 27: Muller et al. disclose comparing stored locations of runways to an aircraft instantaneous position, selecting a nearest runway, and calculating the distance to the nearest runway value (col. 2, lines 40-50, and col. 10, lines 24-35). Plus the consideration of claim 6 above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Bateman et al. [U.S. Pat 6,445,310] disclose an apparatus, method, computer program products for generating a runway field clearance floor envelope about a selected runway.

b. Gutierrez [U.S. Pat. 6,456,941] discloses a system and method for aircraft and watercraft control and collision prevention.

c. Bateman et al. [U.S. Pat. 4,567,483] disclose a position based ground proximity warning system for aircraft.

d. Boyes et al. [U.S. Pat. 5,442,556] disclose an aircraft terrain and obstacle avoidance systems.

e. Connetr et al. [U.S. Pat. 6,484,071] disclose a ground proximity warning system, method and computer program product for controllably altering the base width of an alert envelope.

f. Bateman et al. [U.S. Pat. 4,646,244] disclose a terrain advisory system.

g. Noland, deceased [U.S. Pat. 4,675,823] disclose a ground proximity warning system geographic area determination.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phung T Nguyen whose telephone number is 703-308-6252. The examiner can normally be reached on 8:00am-5:30pm Mon thru. Friday, with alternate Friday off.

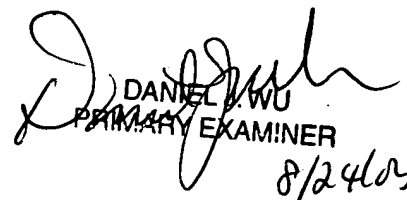
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on 703-308-6730. The fax numbers for the organization where this application or proceeding is assigned are 703-305-3988 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Examiner: Phung Nguyen

Date: August 22, 2003


DANIEL J. WU
PRIMARY EXAMINER
8/24/03